



## AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT

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### Authorization issued to:

TMAC Resources  
2100-40 King Street West  
Toronto, ON  
M5H 3C1

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### Location of Project

The jetty associated with the Hope Bay Limited underground gold mine ("Doris North Project") is located on the southeastern shore of Roberts Bay in the West Kitikmeot Region of Nunavut. (UTM Zone 48, UTM Easting 541803, UTM Northing 7543202).

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### Valid Authorization Period

The valid authorization period for the harmful alteration, disruption or destruction of fish habitat associated with the construction of the jetty is:

From:  
May 13, 2010

To:  
July 14, 2012

The valid periods for other conditions of the authorization are as set out below.

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### Description of Works or Undertakings (Type of work, schedule, etc.)

The harmful alteration, disruption or destruction hereby authorized is the destruction of 683 square meters of fish habitat due to infilling for the expansion of the jetty in Roberts Bay.

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### Conditions of Authorization

1. The conditions of this Authorization notwithstanding, should the above works or undertakings, due to weather conditions, different soil or other natural conditions, or for any other reason, appear, in the opinion of the Department of Fisheries and Oceans ("DFO") likely to cause greater impacts than the parties previously contemplated, then DFO may direct TMAC Resources (hereafter referred to as the "Proponent"), and its agents, and contractors, to suspend or alter works and activities associated with the project, to avoid or mitigate adverse impacts to fisheries resources. DFO may also direct the Proponent and its agents, and contractors, to carry out at the Proponent's expense any works or activities deemed necessary by DFO to avoid or mitigate further adverse impacts to fisheries resources. In circumstances where DFO is of the view that greater impacts may occur than were contemplated by the parties DFO may also modify or rescind this authorization. If the authorization is to be changed the Proponent will be given an opportunity to discuss any proposed modifications or rescission.
2. Conditions that relate to the Proponent plan:
  - 2.1. The Proponent confirms that all plans and specifications relating to this authorization have been duly prepared and reviewed by appropriate professionals working on behalf of the Proponent. The Proponent acknowledges that they are solely responsible for all design, safety and workmanship aspects of all the works associated with

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this Authorization.

2.2. The construction of the jetty shall comply with those criteria as identified within this Authorization. Harmful alteration, disruption or destruction of fish habitat other than that specifically identified within this Authorization is prohibited.

2.3. Works and undertakings shall be conducted in accordance with the practices outlined in the following reports, and as approved by DFO:

2.3.1. Application for Authorization for Works or Undertakings Affecting Fish Habitat – Doris North Jetty Improvements, prepared by Rescan Environmental Services for Hope Bay Mining Limited, dated February 2010.

2.3.2. Jetty Repair – Existing Conditions – Sheet 1 of 4, designed by Rescan Environmental Services, dated February 2010.

2.3.3. Jetty Repair – Site Plan – Sheet 2 of 4, designed by Rescan Environmental Services, dated February 2010.

2.3.4. Jetty Repair – Proposed Riprap Shoal Sections – Sheet 3 of 4, designed by Rescan Environmental Services, dated February 2010.

2.3.5. Jetty Repair – Jetty Typical Sections – Sheet 4 of 4, designed by Rescan Environmental Services, dated February 2010.

2.3.6. The above documents and drawings are hereafter referred to as the “Plan”. Where contradictions exist, the most recent version shall apply.

3. Conditions that relate to the mitigation of potential harmful alteration, disruption or destruction (“HADD”) of fish habitat. The following measures shall be implemented to avoid the unauthorized HADD of fish habitat:

3.1. No in-water work shall occur between July 15 and August 15 of any given year to protect critical spawning and rearing periods for all fish species in Roberts Bay.

3.2. A qualified biologist or environmental inspector shall be on site during all in-water construction, compensation and restoration works to ensure implementation of the designs as intended in the Plan and conditions of this Authorization.

3.3. All materials and equipment used for the purpose of all work phases shall be operated and stored in a manner that prevents any deleterious substance (e.g. petroleum products, silt, debris, etc.) from entering the water.

3.3.1. Any stockpiled materials shall be stored and stabilized above the ordinary high water mark of any water body.

3.3.2. Vehicle and equipment re-fuelling and maintenance shall be conducted above the ordinary high water mark of any water body.

3.3.3. Any part of equipment entering the water shall be free of fluid leaks and externally cleaned/degreased to prevent any deleterious substance from entering the water.

3.4. Only clean, competent, certified non-acid generating rock and material free of fine particulate matter shall be placed in the water.

3.5. Material used for habitat compensation features shall not be taken from below the ordinary high water mark or shoreline of any water body.

3.6. Sediment and erosion control measures shall be implemented prior to work, and maintained during the work

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phases, to prevent entry of sediment into the water or the movement of re-suspended sediment.

3.6.1. All disturbed areas shall be stabilized upon completion of work and restored to a pre-disturbed state or better.

3.6.2. Sediment and erosion control measures shall be left in place and maintained until all disturbed areas have been stabilized.

3.6.3. A sediment and erosion control plan shall be submitted to the Iqaluit, NU office of the Department of Fisheries and Oceans, Fish Habitat Management, Eastern Arctic Area, at least 10 days prior to the start of construction.

4. Conditions that relate to the compensation for the loss of 685 square meters of fish habitat as defined in the Plan.

4.1. As described in the Proponent Plan, approximately 1553 square metres of fish habitat shall be created by:

4.1.1. Constructing two (2) underwater rock shoals (32 meters long by 12 meters wide with a minimum depth of 1 meter below mean water level) near shore, west of the jetty and north of the existing four shoals.

4.1.2. Constructing a rock apron at the base of the toe of the jetty slope.

5. Conditions that relate to the monitoring of the Proponent Plan, the mitigation and compensation, the "Monitoring Program".

5.1. The Construction Monitoring Program shall be implemented to ensure the works were conducted within the schedule of the Proponent Plan and whether the mitigation measures outlined in the Proponent Plan and this Authorization were followed, by:

5.1.1. Providing a photographic record of before, during and after construction, showing that all works and undertakings have been completed according to the approved Proponent Plan and conditions of this Authorization.

5.1.2. Providing dated photographs of the sediment control works and details of how they functioned to mitigate impacts to fish habitat.

5.1.3. Providing details of any contingency measures that were followed in the event that mitigation measures did not function as described in the Proponent Plan.

5.1.4. The photographs for each period of documentation shall be taken from the same vantage point(s), direction and angle of view.

5.1.5. All photographs shall be clearly labeled with the date, location and viewing direction. The photographic locations and viewing directions shall be indicated on a plan view drawing of the work site and clearly indexed to the photographs.

5.1.6. A written report summarizing the above monitoring results shall be submitted to the Iqaluit, NU office of Fisheries and Oceans Canada- Fish Habitat Management Program, Eastern Arctic Area by December 31, 2011.

5.2. A Compensation Monitoring Program shall be implemented as outlined in the "Application for Authorization for Works or Undertakings Affecting Fish Habitat- Doris North Jetty Improvement, prepared by Rescan Environmental Services for Hope Bay Mining Limited, dated February 2010."

5.2.1. The Compensation Monitoring Program shall be implemented in the following years: 2012- Year 1 after construction; 2013 Year 2 after construction and Year 3 of monitoring shall occur in 2015.

5.2.2. A written report summarizing the above mentioned results shall be submitted to the Iqaluit, NU office of Fisheries and Oceans Canada- Fish Habitat Management Program, Eastern Arctic Area by December 31 of

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each year of the program (i.e. 2012, 2013 and 2015).

5.3. At mine closure, the Proponent shall develop a Jetty Lowering Monitoring Program incorporating the monitoring and reporting requirements of the original authorization (NU-02-0117).

5.3.1. The Jetty Lowering Monitoring Program shall be implemented in the first year of active mine closure (i.e. year of jetty lowering to below high water level), year 1 post lowering of jetty and year 2 post lowering of the jetty.

6. Conditions that relate to financial security

6.1. Pursuant to condition 6.0 of Authorization NU-02-0117.3, provision of a Letter of Credit by the Proponent to DFO in the amount of \$467,608 will also be accepted by DFO as security related to fulfilling all obligations under this Authorization.

6.2. The Letter of Credit will be held by DFO as security for the performance by the Proponent with regards to all of its obligations under this Authorization and for obligations under Authorizations NU-0117.2 and NU-02-0117.3.

6.3. DFO may withdraw funds from the Letter of Credit to retain an independent contractor to undertake any activity described in the conditions of this Authorization and in Authorizations NU-02-0117.2 and NU-0117.3, should these not be completed by the Proponent.

6.4. DFO shall provide the Proponent with at least seven (7) days notice prior to any withdrawal of funds from the Letter of Credit.

6.5. To the extent not prohibited by law, the Proponent shall have the right to audit, from time to time with reasonable notice to DFO and at the Proponent's expense, any expenditure of funds withdrawn by DFO.

6.6. The Letter of Credit shall be returned upon satisfactory completion of all obligations, in particular habitat compensation works and monitoring required under this Authorization and Authorizations NU-02-0117.2 and NU-02-0117.3, to which the Letter of Credit also applies.

7. Any deviation from the approved plans, the construction schedule, mitigation, compensation and/or monitoring measures stated above must be discussed with, and approved in writing by the Iqaluit, NU office of the Department of Fisheries and Oceans, Fish Habitat Management, Eastern Arctic Area.

8. All mitigation, compensation and monitoring measures shall be implemented to the satisfaction of the Iqaluit, NU office of the Department of Fisheries and Oceans, Habitat Management, Eastern Arctic Area.

9. Written notification of the commencement of works or undertakings shall be provided to the Iqaluit, NU office of the Department of Fisheries and Oceans, Habitat Management, Eastern Arctic Area, by e-mail to .ca Georgina.Williston@dfo-mpo.gc.ca or fax at (867) 979-8039 not less than 10 days prior to the initiation of said works or undertakings.

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The holder of this authorization is hereby authorized under the authority of section 35(2) of the *Fisheries Act*, R.S.C., 1985, c.F. 14, to carry out the work or undertaking described herein. This authorization is valid only with respect to fish habitat and for no other purposes. It does not purport to release the applicant from any obligation to obtain permission from or to comply with the requirements of any other regulatory agencies.

Failure to comply with any condition of this authorization may result in charges being laid under the Fisheries Act.

This authorization form shall be held on site and work crews shall be made familiar with the conditions therein.

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Date of Issuance:

JUN 19 2013

Approved by:

  
David Burden

Title:

A/Regional Director General, Central and Arctic Region  
Fisheries and Oceans Canada

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